THE SEVENTH ANNUAL REPORT

of the

DEPARTMENT *of* ANESTHESIOLOGY

1964

THE NEW YORK HOSPITAL-CORNELL MEDICAL CENTER
525 EAST 68TH STREET, NEW YORK, NEW YORK

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THE SEVENTH ANNUAL REPORT

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DEPARTMENT OF ANESTHESIOLOGY

The New York Hospital

1964

by JOSEPH F. ARTUSIO, JR., M.D.

To the President of the Board of Governors of the Society of The New York Hospital:

1964 marked the seventh year that this department has functioned as a separate autonomous department of this hospital.

The clinical care of our patients improves. The excellence of patient care exceeds all previous years and is provided 24 hours a day, seven days a week, in a system where residents and attendings are always in attendance. This continuity is so essential to provide uniform care whether the patient is to receive an anesthetic in the morning or the middle of the night.

In last year's report I wrote of the National Halothane Study and hoped it would be completed this year. However, the study is still in progress and we probably will not have the results until the middle part of 1965.

The Third World Congress of Anesthesiologists was held in Sao Paulo, Brazil this year and I represented this department. It was indeed gratifying to see advancements made in the field of anesthesia throughout the world. Countries in which the practice of anesthesia was primitive until a few years ago are now beginning to provide a reasonable standard of anesthesia. The American anesthesiologist continues to share his great fund of knowledge with the entire world. This department plays a part in bringing to many areas of the world advancements in anesthesia made in this country and in this institution.

Visits were also made to several departments of anesthesia in Mexico and I am sure, have added in improving the practice of anesthesia in that country.

Plans for regional teaching centers were made at the World Congress to teach physicians the specialty of anesthesiology in the vicinity of their home lands that they may improve their anesthesia in their own countries. Too frequently, a doctor from another land comes to this country to be trained in this specialty but unfortunately, he does not return to his native land. Although the United States gains a well-trained specialist, it is quite unfortunate that his own country is deprived of his new knowledge which it usually needs in greater degree than we do.

During the year I have had the opportunity to be a visiting professor at several large departments of anesthesiology in this country and I have, indeed, been impressed by the value of the concept of the visiting professor. I am sure I took away from each institution as much as I was able to give to their resident and attending staffs. In 1965 I would like to be able to plan and seek the funds for a visiting professor program and invite outstanding international anesthesiologists with different philosophies of anesthetic management and with new ideas to stimulate our entire department. A great danger to any department is to find itself becoming ingrown, complacent, and with run-of-the-mill ideas. The visiting professor introduces new thought, new techniques, new research methods; all of which help to remove complacency existing within a department. He may introduce new goals for the residents and attendings alike. I would like to see us establish several visiting professorships each year of one week's duration which, I am sure, would keep our department active, alert, and stimulated.

SENIOR STAFF

My associates in the administration of this Department have been:

Benjamin E. Marbury, M.D., Attending Anesthesiologist	January 1949
Marjorie J. Topkins, M.D., Associate Attending Anesthesiologist	July 1952
Alan Van Poznak, M.D., Associate Attending Anesthesiologist	February 1958
Herbert Erlanger, M.D., Assistant Attending Anesthesiologist	June 1957
*Francis M. Tiers, M.D., Assistant Attending Anesthesiologist	August 1959
George R. Monahan, M.D., Assistant Attending Anesthesiologist	July 1960
Jerold Schwartz, M.D., Assistant Attending Anesthesiologist	October 1961
Jerome Weinroth, M.D., Assistant Attending Anesthesiologist	December 1961
Ann Huston, M.D., Assistant Attending Anesthesiologist	January 1962
Raymond G. Barile, M.D., Assistant Attending Anesthesiologist	July 1963
Louis J. Maggio, M.D., Assistant Attending Anesthesiologist	July 1963
Patricia M. O'Neil, M.D., Assistant Attending Anesthesiologist	July 1963
Barnett J. Junker, M.D., Assistant Attending Anesthesiologist	October 1963
Alexander Gotta, M.D., Assistant Attending Anesthesiologist	July 1964
Dragan Borovac, M.D., Assistant Attending Anesthesiologist	July 1964
Peter W. T. Yu, M.D., Assistant Attending Anesthesiologist	July 1964

*resigned October 1964

Again the senior staff increased in size when three new attending anesthesiologists joined our staff. Dr. Alexander Gotta completed his residency on June 30, 1964 and joined our attending staff. Dr. Peter W. T. Yu, who completed his residency in 1962 in this institution, after having spent two years in the Armed Forces returned to this department as an attending anesthesiologist. Dr. Dragan Borovac also joined our attending staff from the Department of Anesthesiology of the New York University Medical College.

We were, indeed, sorry that Dr. Francis M. Tiers resigned his position as an Assistant Attending Anesthesiologist. Dr. Tiers served this institution well, first as a resident then as a member of the senior staff. However, we are very happy that he accepted the directorship of the Department of Anesthesiology of the Jersey City Medical Center. Dr. Tiers assumed this new position with great enthusiasm and I know he will raise the standards of anesthesia in that hospital as he is a dynamic and capable anesthesiologist. We wish him well and offer him any assistance to help him establish his new department.

Dr. Alan Van Poznak, having spent two years in the Department of Pharmacology in research under the direction of Dr. Walter Riker, returned to this department. He resumed his clinical duties and also began to initiate the activities in our anesthesia research laboratory, which is now equipped with the latest research instrumentation.

RESIDENT STAFF

Resident staff appointments in Anesthesiology for the year 1964 are as follows:

Anesthesiologists (1)

Alexander Gotta, M.D.	July 1, 1962 to June 30, 1964
Luke Kitahata, M.D.	July 1, 1962 to June 30, 1964
Hugh O'Shaughnessy, M.D.	July 1, 1962 to June 30, 1964
Krystyna Szmurlo, M.D.	July 1, 1962 to June 30, 1964
T. Miriam Tani, M.D.	July 1, 1962 to June 30, 1964
Colleen Sullivan, M.D.	Oct. 1, 1962 to Sept. 30, 1964
Mary Ellen Cooney, M.D.	July 1, 1963
Aileen Kass, M.D.	July 1, 1963
Joseph Moccia, M.D.	July 1, 1963 to July 1, 1964
Parvaneh Modaber, M.D.	July 1, 1963
David Susman, M.D.	July 1, 1963

Assistant Anesthesiologists (1)

Leslie L. Balazs, M.D.	Sept. 1, 1964
Elizabeth A. M. Frost, M.D.	July 1, 1964
Farrell M. Glick, M.D.	July 1, 1964 to Oct. 1, 1964
Manon G. Manahan, M.D.	July 15, 1964
Michael L. Testa, Jr., M.D.	Sept. 1, 1964
Judith Weingram, M.D.	July 1, 1964
*Enrique Panlilio, M.D.	Nov. 1, 1963 to Feb. 28, 1964

*Four months training as per agreement with Memorial Hospital.

On June 30, 1964 Drs. Alexander Gotta, Luke Kitahata, Hugh O'Shaughnessy, Krystyna Szmurlo, and T. Miriam Tani completed their two year residency training in this department. Dr. Gotta joined our senior staff. Dr. Kitahata became an attending anesthesiologist in the Department of Anesthesiology at the Yale Medical School. Dr. Kitahata, I am sure, with his intense interest in research will advance anesthesia of the future. Dr. O'Shaughnessy joined a group of practicing anesthesiologists at the Sturdy Memorial Hospital in Attleboro, Massachusetts. Dr. Szmurlo became a practicing anesthesiologist in Brooklyn. Dr. Tani returned to her native California and is now practicing clinical anesthesia in that area. On September 30, 1964 Dr. Colleen Sullivan completed her two year residency in this department and became a Fellow in Anesthesiology at the Memorial Hospital.

On July 1, 1964 Drs. Mary Ellen Cooney, Aileen Kass, Parvaneh Modaber, and David Susman began their second year of anesthesia training. Dr. Joseph Moccia resigned his position on our residency staff and continued his training in anesthesia at the Memorial Hospital.

During 1964 we welcomed six residents into our training program. Dr. Leslie L. Balazs, a graduate of Dalhousie University, Canada; Dr. Elizabeth A. M. Frost, a graduate of Glasgow University, Scotland; Dr. Manon G. Manahan, a graduate of the University of Santo Tomas, Philippines; Dr. Michael L. Testa, Jr., a graduate of the University of Padova, Italy; and Dr. Judith Weingram, a graduate of Albert Einstein Medical College, New York. Each will complete a prescribed program of study during the two or three year period. Dr. Farrell M. Glick, a graduate of the University of Lausanne, Switzerland, resigned his position in October as he felt that this specialty was not what he desired.

Dr. Enrique Panlilio completed his four months of training in this department as a resident as part of the four months training agreement with Memorial Hospital.

NURSE ANESTHETISTS

Marjorie J. Topkins,
M.D. in charge

Nurse anesthetists for the year 1964 are as follows:

Sara Mullin, Senior Nurse Anesthetist	Sept. 1932
Josephine Cahill, Senior Nurse Anesthetist	Nov. 1943
Ethel Kovar, Senior Nurse Anesthetist	Nov. 1944
Grayce Eveleth, Staff Nurse Anesthetist	Nov. 1935
Catherine Litzen, Staff Nurse Anesthetist	Apr. 1937
Elizabeth Davis, Staff Nurse Anesthetist	Feb. 1938
Maureen Maxfield, Staff Nurse Anesthetist	Feb. 1958
Consuela Hansen, Staff Nurse Anesthetist	Nov. 1958
Barbara Frisch, Staff Nurse Anesthetist	Jan. 1961
Carole White, Staff Nurse Anesthetist	Mar. 1963
Elizabeth Hambly, Staff Nurse Anesthetist	Sept. 1963
Lois Narciso, Staff Nurse Anesthetist	Jan. 1964 to July 1964
Elizabeth Humphrey, Staff Nurse Anesthetist	Mar. 1964 to Sept. 1964
Margie Reece, Staff Nurse Anesthetist	June 1964 to Aug. 1964
Emma Reiter, Staff Nurse Anesthetist	July 1964 to Aug. 1964
Georgette Gabriel, Staff Nurse Anesthetist	Aug. 1964
Soraya Afchartousse, Staff Nurse Anesthetist	Sept. 1964

At the end of 1964, there was little change in the total composition of our nurse anesthetists group.

A total of three senior nurse anesthetists and ten staff nurse anesthetists constitute the working complement. As in prior years, the nurse anesthetists continue to be a vital part of the department, in their assistance to the anesthesiologists and in the administration of anesthetics. Their services are utilized in the Department of Obstetrics and Gynecology, in the general operating rooms, in the many clinics and diagnostic areas that now require anesthesia.

CLINICAL FUNCTIONS OF The Department

Benjamin E. Marbury, M.D. in charge

The total number of anesthetics administered during the year 1964 has again increased over the previous year. Attending anesthesiologists now administer anesthesia for all private and semi-private patients as well as supervise residents administering anesthesia to the pavilion patients.

An increase in the number of anesthetics being given in diagnostic clinics and other locations outside the operating room continues and has become a major work-load. Formerly, requests for the administration of anesthesia outside the operating room was rare.

The care of the surgical patient now provided entails many measuring devices to monitor various parameters. Ten different electronic devices for monitoring various physiological functions are now used in our operating rooms. They greatly contribute to the safe management of the anesthetized patient. The most commonly used device in the care of the pediatric patient is the automatic heating and cooling unit to control body temperature. This monitor will maintain the patient's body temperature at any desired level.

The department continues to provide an ever increasing consultation service for all the departments of the hospital.

Demonstration and instruction in the use of equipment for inhalation therapy and resuscitation has been ably handled by Dr. Marbury.

RESIDENCY TRAINING

Our greatest effort is placed in the teaching of our embryo anesthesiologists. It is through this effort that we make our greater contributions to the future of anesthesia and to the care of the patient in years to come.

In this residency training program we attempt to produce a well rounded specialist who has mastered the anesthetic agents and the techniques of administration to man. However, an emphasis is placed on the sensible approach in the care of the patient continually stressing in the clinical management attention to minute detail. We seek a balance between clinical judgment and the objective measurements of mechanical monitoring equipment. We believe this provides the safest type of care for the patient.

The resident is encouraged to investigate the new; not to be satisfied with the status quo. He is encouraged to question his peers; to question the value of certain techniques and methods for the administration of anesthesia. He is encouraged to visit other institutions to observe the accomplishment of the relief of pain of a surgical procedure by others. Every attempt is made to prevent the resident from developing the belief that there is only one way to accomplish an anesthesia for a particular surgical operation. He is encouraged to read current literature, to evaluate the data, and to question the conclusions; and he is educated to temper the new in relationship to classical concepts.

MEDICAL STUDENTS

During 1964 our didactic lectures continued in a similar fashion as they were during 1963. Our great stress this year is in the elective program. With the introduction of the second year elective, we have had the opportunity to see the second year students in our operating rooms working with the anesthesiologist in clinical situations and aiding in clinical research. They have been a most enthusiastic group. I believe from this type of endeavor one will be able to introduce the student to the specialty of anesthesiology at a time when he is deciding on his future specialty.

The fourth year elective is beneficial as it has been over these many years. However, by the time the medical students have reached the fourth year, many have made up their minds concerning their future specialty. They take the elective in anesthesia to further their knowledge in resuscitation and the handling of the unconscious patient, both of which are indeed to be encouraged as only the anesthesiologist is able to provide this type of teaching.

We are still fostering interest in the summer fellowship program for medical students. Funds are now becoming available through the state societies of anesthesiology, through the National Institutes of Health, to further this program. I am sure that as our anesthesia laboratories continue to grow, we will be able to function in this summer fellowship program and will be able to provide the medical student with a rich experience in the field of anesthesia research.

INSTRUMENTATION AND RESEARCH FUNCTION

Alan Van Poznak,
M.D. in charge

Several important advances in anesthesiology research were made in 1964. Laboratory space on the sixth floor of the Wood Building was made available. Additional equipment for further investigation of motor nerve terminal function is now under construction in the Apparatus Shop.

During the past two years, joint investigative efforts with the Department of Pharmacology have produced several important observations on the effects of anesthetics on nerve terminals. Cyclopropane was shown to have depressant effects on nerve in concentration as low as 5 per cent. This is the first time that a direct depressant effect has been shown with clinically useful concentrations of this agent, which not only reaffirms the contention of Riker and coworkers that the motor nerve terminal is a useful model for demonstration of synaptic effects of drugs, but also offers the suggestion that cyclopropane has its primary effect on the central nervous system through suppression of nerve terminal activity. In addition, the neuromuscular blocking action of cyclopropane has been quantitated by examination of dose-response curves obtained from curarized and non-curarized preparations. This neuromuscular blocking action exerts its earliest effects on the nerve terminal, in agreement with the works of Riker and of Standaert that prejunctional effects of neuromuscular blocking drugs are of considerable importance.

A research training program for anesthesiologists, under consideration for several years, will start operation in July 1965. Dr. Parvaneh Modaber will begin a third year of residency at that time and will spend half of her time in investigative work.

Interest continues in teflurane, an agent clinically similar to cyclopropane in several respects but having the additional advantage of nonflammability. This agent, first tried at this institution, will be further investigated.

Although no significant advances were made by our studies in electronarcosis, we have maintained our interest in non-chemical methods of anesthesia and plan to pursue several hopeful leads.

RECORDS AND STATISTICS

Chart I

The use of cyclopropane remains approximately the same. The use of diethyl ether, nitrous oxide decreases significantly. The rise in the use of non-flammable anesthetic agents, methoxyflurane, halothane, is indeed significant. Last year 2900 anesthetics were given with these agents and this year there were more than 5000. The trend is certainly away from the flammable explosive agents toward the nonflammable halogenated anesthetics. The number of total anesthetics again this year increased by 400. The increase is equally distributed between private and pavilion patients.

Chart II

The semi-closed circle CO_2 absorbing technique continues to gain popularity at the expense of the closed circle system. There is a noticeable increase in the use of hypothermia. This increase is associated with the routine use of the hypothermia unit for all children undergoing surgery. The routine use of the cooling blanket for these children has resulted in more than the doubling of this technique this year over 1963. The use of the endotracheal tube and the use of the neuromuscular blocking agents has remained approximately the same.

Chart III

Chart III shows the summary of cases according to the region of the body operated upon; the distribution according to region is very similar to the preceding years.

Chart IV

The number of cases done by the residents and the distribution according to body region shows that at the present time our residents are doing about one quarter of the anesthesias. Cases are well distributed throughout each region of the body so that they have adequate experience in anesthesia in all types of surgical and obstetrical procedures.

Chart V

Chart V (a) shows the five cardiac arrests that occurred in our operating rooms during this year were either in the geriatric age group or in the first decade of life. The physical status of the geriatric patients was 2 or greater. However, in the new born group, two of the three cardiac arrests were considered to have physical status 1. The other child was practically moribund due to overwhelming peritonitis. In spite of the fact that all of the hearts were restarted, the ultimate survival rate without sequelae was but 40 per cent. There was no common anesthetic agent nor muscle relaxant used. Four out of the five occurred in the operating room and one in the recovery area.

Chart V (b) shows fifteen patients suffered myocardial infarct within the first postoperative week. Only two gave a history of a previous myocardial infarction. All but two of the patients were 60 years of age or older and only one patient was thought to be in physical status 1. One patient in the fourth decade had serious bronchopulmonary disease. The single patient in the fifth decade of life had significant coronary artery arteriosclerosis. Of the fifteen patients who sustained a myocardial infarction, nine died in the first postoperative week, six improved and left the hospital. Nine of the fifteen patients had a surgical procedure greater than four hours in duration. There was no common anesthetic agent nor common muscle relaxant used.

Three patients had pulmonary infarctions and three patients sustained cerebral thrombosis in the postoperative period.

Chart V (c) shows thirteen patients developed pneumonia and/or atelectasis; two resulted in the death of the patient. Both of these were in emergency surgical procedures in patients who were more than 80 years old. There was no common anesthetic nor common surgical procedure. All the procedures lasted at least two hours.

1964

Department of Anesthesiology

General Surgery — GYN — Obstetrics

Cyclopropane	6,039	
Ether, semi-closed circle	1,243	
Ether, open	172	
Nitrous oxide	3,390	
Thiopental sodium, intravenous	35	
Thiopental sodium, rectal	14	
Vinethene	33	
Regional block for surgery	48	
Spinal	191	
Epidural and caudal	8	
Methoxyflurane	2,570	
Halothane	2,446	
Trilene	2	16,191
Miscellaneous		
Locals, O.R. for surgery	3,432	
Blocks O. R. and Clinic (therapeutic and diagnostic)	26	
Locals Clinic	451	
Thiopental sodium, electroshock	267	
Thiopental sodium electroconversion	109	4,285
		20,476
Private patients	11,958	
Pavilion patients	8,518	20,476

Chart I—Annual Summary—Primary Anesthetics

1964

Department of Anesthesiology

General Surgery — GYN — Obstetrics

Methods of induction to primary anesthesia		
Thiopental sodium induction		9,970
Vinethene induction		81
Rectal thiopental sodium basal		42
Induction and maintenance with same anesthetic		
Cyclopropane induction to Cyclopropane maintenance		521
Ether induction to ether maintenance		237
Nitrous Oxide induction to Nitrous Oxide maintenance		2,957
Closed circle CO_2 absorption technic		8,321
Semi-closed circle CO_2 absorption technic		7,021
Open mask method		205
Insufflation		30
Infant circle CO_2 absorption technic		241
Mechanical ventilator		47
Non-breathing valve		30
Special technics		
Arfonad — controlled hypotension		48
Cardio-pulmonary bypass		68
Generalized hypothermia (tub or blanket)		163
Localized hypothermia (ice packs)		49
Endotracheal intubation		
Nasoendotracheal	212	
Oroendotracheal	5,850	6,062
Neuromuscular blocking agents		
d'Tubocurarine only	163	
Succinylcholine only	6,014	
Both used	527	
Flaxedil only	35	6,739

CHART II—Annual Summary—Methods of Induction—Technics—Special Drugs

1964

ANESTHESIOLOGY DEPARTMENT

Summary of Cases — Includes General, Spinal and Block Anesthesia

Head and Neck

ENT (by region)	831
Eye	571
Dental	164
Face	187
Thyroid	149
Neck	152
Head, superficial	14
Intracranial	284
Esophagoscopy Bronchoscopy	55
	2,407

Thorax

Great vessels	24
Mitral valvulotomy (closed)	32
Cardiac-Pulmonary bypass	66
Other heart surgery	41
Intrapleural	143
Extrapleural	5
Thorax, superficial	444
Thoracic cage	14
Shoulder	29
	798

Upper abdomen

Stomach-duodenum	212
Biliary tract	553
Retroperitoneal	50
Colon	351
Pancreas	25
Spleen	33
Renal	223
Portal	6
Close evisceration	5
	1,458

Lower abdomen

Appendix	214
Bowel, small	116
OB, vaginal delivery	3,880
GYN abdominal surgery	686
Urology, abdominal	375
Caesarean section	228
Abdominal-perineal	49
Abdominal aorta & vessels	78
Ventral hernia	74
	5,700

Abdominal wall

Extraperitoneal	5
Hernia, ing.fem.umb.	588
Lumbar sympathectomy	15
Abdomen, superficial	59
Burns, 10% body	4
	671

Perineal

GU perineal (TUR & Cysto)	1,260
Ano-rectal	201
Perineal GYN (D&C, etc.)	2,363
Vaginal hysterectomy	172
	3,996

Spine

Column	87
Cord	19
Back, pilonidal, etc.	92
	198

Limbs

Upper bone	59
Upper soft	245
Lower bone	346
Lower soft	293
	943

Grand total operations	16,171
Grand total anesthesias	16,191
Anesthesia—no operation	20

Chart III

1964

ANESTHESIOLOGY DEPARTMENT

Summary of RESIDENT Anesthesiologists' Cases
Includes General, Spinal and Block Anesthesias

Head and Neck

ENT (by region)	307
Eye	135
Dental	72
Face	30
Thyroid	50
Neck	39
Head, superficial	3
Intracranial	114
Esophagoscopy Bronchoscopy	24
	774

Thorax

Great vessels	15
Mitral valvulotomy (closed)	21
Cardiac-pulmonary bypass	66
Other heart surgery	27
Intrapleural	61
Extrapleural	3
Thorax, superficial	66
Thoracic cage	7
Shoulder	8
	274

Upper abdomen

Stomach-duodenum	95
Biliary tract	212
Retroperitoneal	13
Colon	114
Pancreas	8
Spleen	20
Renal	91
Portal	4
Close evisceration	2
	559

Lower abdomen

Appendix	96
Bowel, small	44
OB, vaginal delivery	621
GYN, abdominal surgery	121
Urology, abdominal	83
Caesarean section	80
Abdominal-perineal	29
Abdominal aorta & vessels	30
Ventral hernia	21
	1,125

Abdominal wall

Retroperitoneal	1
Hernia, ing.fem.umb.	190
Lumbar sympathectomy	7
Abdomen, superficial	21
Burns, 10% body	1
	220

Perineal

GU perineal (TUR & Cysto)	280
Ano-rectal	48
Perineal GYN (D&C, etc.)	354
Vaginal hysterectomy	43
	725

Spine

Column	27
Cord	12
Back, pilonidal, etc.	27
	66

Limbs

Upper bone	22
Upper soft	75
Lower bone	122
Lower soft	78
	297

Grand total operations	4,040
Grand total anesthesias	4,048
Anesthesia—no operation	8

CHART IV

ANESTHESIOLOGY CLASSIFICATION OF COMPLICATIONS

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Ind. to Arrest*	*Complication*	*Result*
7th	2	Oxygen	S. Closed Endotr.	Anectine	Recurrent ventral hernia Diabetes mellitus No operation	5 min.	Hypoxia & cardiac arrest O.R.	Success resus; no sequelae
1st	1	Ether	S. Closed Endotr.	....	Complete cleft palate with fistula. Wardil pushback & pharyngeal flap.	2 hrs.	Anoxia, cardiac arrest O.R.	Cardiac resus. Death
1st	5E	Nitrous Oxide	Closed Endotr.	....	Mid-gut volvulus ¢ meconium peritonitis. Reduction volvulus, resection gangrenous small bowel ¢ end to end anastamosis.	2 hrs.	Cardiac arrest, O.R. twice and again 36 hours post-op.	Success resus. O.R. Death 36 hrs. later
6th	2	Cyclo	Closed	....	Left inguinal hernia Previous M I Left inguinal hernioplasty	1¾ hrs.	Cardiac arrest R.R. Possible M I	Success resus; no sequelae
1st	1	Ether	S. Closed Endotr.	....	Cystic hygroma Excision cystic hygroma	4½ hrs.	Heat retention Cardiac arrest O.R.	Cardiac resus. Death

Chart V (a) — Cardiac Arrests and Massage within immediate anesthesia period.

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Time*	*Complication*	*Result*
7th	2	Cyclo	S. Closed	....	Inguinal hernia Herniorrhaphy	1½ hrs.	Myocardial infarct 4th po. day	Improved
9th	3	Penthrane	Closed	....	Intertrochanteric fracture L. hip. HCVD. Closed red., Jewet nailing hip	2 hrs., 50 min.	Myocardial infarct 1st po. day	Improved
9th	3	Nitrous Oxide	S. Closed	....	Subtrochanteric fracture R. femur. HASCVD—Previous M I Open red., internal fixation.	4¼ hrs.	Myocardial infarct 3rd po. day	Death
8th	3E	Cyclo	Closed Endotr.	....	Cecal volvulus ¢ intestinal obstruction. Reduction of cecal volvulus	2¾ hrs.	Myocardial infarct 4th po. day	Death
9th	4	Cyclo	Closed Endotr.	Anectine	Chr. bleeding stomal ulcer Retro-coligastrojejunostomy	5 hrs., 25 min.	Myocardial infarct 3rd po. day	Death
8th	3	Ether	S. Closed Endotr.	Anectine	Bilat. carcinoma breast Radical mastectomy, rt.	4 hrs.	Myocardial infarct 1st po. day	Death
7th	3	Cyclo	Closed Endotr.	Anectine Curare	Carcinoma of stomach Esophagogastrectomy	6 hrs., 40 min.	Myocardial infarct 1st po. day	Improved
8th	4E	Cyclo	Closed Endotr.	Curare	Hemorrhage esophageal varices Portocaval shunt	7 hrs.	Myocardial infarct 4th po. day	Death

CHART V (b) — Vascular Complications within 7 day post anesthesia period.

ANESTHESIOLOGY CLASSIFICATION OF COMPLICATIONS

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Time*	*Complication*	*Result*
7th	3	Penthrane	Closed Endotr.	....	Intertrochanteric fracture L. hip. ASCVD. Previous M I Closed red., Jewett nailing	2 hrs., 35 min.	Myocardial infarct 1st po. day	Improved
7th	1	Cyclo	Closed Endotr.	Anectine	Carcinoma, descending colon Left hemicolectomy	4 hrs., 5 min.	Myocardial infarct 1st po. day	Improved
5th	2	Ether	S. Closed Endotr.	Anectine Curare	Gastric ulcer—ASCVD ¢ coronary disease. Alcoholism. Vagotomy, subtotal gastrectomy.	5 hrs., 50 min.	Myocardial infarct 4th po. day	Death
6th	3	Cyclo	Closed Endotr.	Anectine	ASCVD—Occlusion large abd. aorta & superficial femoral arteries. Insert bifurcation bypass graft, abd. aorta to iliac arteries.	9 hrs., 5 min.	Myocardial infarct O.R.—R.R. and Pav.—4th po. day	Death
7th	3E	Cyclo	Closed Endotr.	Anectine	Pancreatic & biliary cutaneous fistula. Feeding jejunostomy, gastrotomy.	2 hrs., 5 min.	Myocardial infarct 2nd po. day	Death
4th	3	Fluothane	S. Closed Endotr.	Anectine	Chr. bronchitis-pulm. emphysema. Hilar adenopathy-bronch. asthma. Exploratory thoracotomy.	4 hrs., 25 min.	Myocardial infarct 4th po. day	Death
8th	3	Cyclo	Closed	....	Ca. urinary bladder, inoperable. Cutaneous ureterostomy.	2½ hrs.	Myocardial infarct 5th po. day	Death

Chart V (b) — Vascular Complications within 7 day post anesthesia period.

ANESTHESIOLOGY CLASSIFICATION OF COMPLICATIONS

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Time*	*Complication*	*Result*
7th	2	Fluothane	S. Closed Endotr.	Anectine	Carcinoma right lung. HCVD. Right upper lobectomy.	5¼ hrs.	Pulmonary infarct 3rd po. day	Death
5th	3	Ether	S. Closed Endotr.	Anectine	Peripheral vascular insufficiency. Femoral-popliteal saphenous vein bypass.	5½ hrs.	Pulmonary infarct 7th po. day	Death
7th	2	Cyclo	Closed	Anectine	Carcinoma of prostate gland. Bilateral orchiectomy.	45 min.	Pulmonary infarct 5th po. day	Improved
6th	3	Penthrane	Closed Endotr.	Anectine	Aortic insufficiency. Open cardiotomy, replacement aortic valve.	5 hrs., 20 min.	Cerebral thrombosis 5th po. day	Death
8th	3	Fluothane	S. Closed	Anectine	Gynecomastia—HCVD, emphysema. Excision of gynecomastia.	1 hr., 5 min.	Cerebral thrombosis 2nd po. day	Improved
7th	2	Ether	S. Closed Endotr.	Curare	Cholecystitis, choledocholithiasis. Pulmonary emphysema. Cholecystectomy & CD exploration.	2½ hrs.	Cerebral thrombosis 4th po. day	Improved
7th	3E	Cyclo	Closed Endotr.	Anectine	Bleeding gastric ulcer. Partial gastrectomy.	3½ hrs.	Cerebral thrombosis 6th po. day	Death

Chart V (b) — Vascular Complications within 7 day post anesthesia period.

ANESTHESIOLOGY CLASSIFICATION OF COMPLICATIONS

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Time*	*Complication*	*Result*
1st	3	Ether	S. Closed Endotr.	....	Chr. small bowel obstruction. Resection small bowel, end to end anastamosis.	4 hrs., 5 min.	Lobar pneumonia 4th po. day	Improved
5th	1	Cyclo	Closed Endotr.	Anectine	Ventral hernia. Chronic bronchitis and emphysema. Ventral herniorrhaphy. Chr. cholecystitis. HCVD	1 hr., 50 min.	Lobar pneumonia 2nd po. day	Improved
7th	2	Cyclo	Closed Endotr.	Anectine	Viral URI, rales pre-op both lung bases. Cholecystectomy.	3¾ hrs.	Lobar pneumonia 2nd po. day	Improved
100th	2E	Penthrane	Closed	....	Intertrochanteric fracture L. femur. Osteo rt. femur. Open reduction, fixation femur.	2 hrs., 5 min.	Bronchopneumonia 3rd po. day CVA—26th po. day	Death
8th	3E	Penthrane	Closed	....	Intertrochanteric fracture hip. Closed reduction, nailing.	3 hrs.	Bronchopneumonia, bil., 4th po. day Possible M I	Death
4th	1	Cyclo	Closed Endotr.	Anectine	Duodenal ulcer. Subtotal gastrectomy, Gastroenterostomy, vagotomy.	5 hrs. 20 min.	Pneumonitis 2nd po. day	Improved

Chart V (c) — Pulmonary Complications within 4 day post anesthesia period.

ANESTHESIOLOGY CLASSIFICATION OF COMPLICATIONS

Age in Decades	*Physical Status*	*Agent*	*Technic*	*Relaxant*	*Diagnosis-Operation*	*Anes. Time*	*Complication*	*Result*
1st	2	Fluothane	S. Closed Endotr.	....	Encephalitis. Arteriogram, pneumoencephalogram.	3 hrs.	Atelectasis LLL Laryngeal edema 1st po. day	Improved
9th	2	Penthrane	Closed	....	Intertrochanteric fracture hip. ASCVD ¢ cerebral arteriosclerosis. Closed reduction, nailing hip.	2 hrs., 40 min.	Bronchopneumonia 4th po. day	Improved
6th	2	Cyclo	Closed Endotr.	Anectine	Chr. cholecystitis, chr. bronchitis. Cholecystectomy.	2 hrs.	Lobar pneumonia 3rd po. day	Improved
6th	1	Cyclo	Closed Endotr.	Anectine	Chr. Cholecystitis. Cholecystectomy, appendectomy.	2 hrs., 55 min.	Atelectasis Pneumonitis 1st po. day	Improved
3rd	3	Penthrane	Closed Endotr.	Anectine Curare	Rheumatic heart disease. Mitral insufficiency. Open replacement mitral and Starr valves.	6 hrs., 25 min.	Atelectasis and Bronchopneumonia 2nd po. day	Improved
9th	2E	Penthrane	Closed	....	Intertrochanteric fracture hip. Closed reduction and nailing.	2¾ hrs.	GI bleeding, aspiration pneumonitis 1st po. day	Improved
7th	2	Penthrane	Closed Endotr.	Anectine Curare	Carcinoma in sigmoid polyp. Sigmoid polypectomy.	2 hrs., 20 min.	Basilar pneumonitis 1st po. day	Improved

CHART V (c) — Pulmonary Complications within 4 day post anesthesia period.

CLOSING COMMENTS

The seventh year of the Department of Anesthesiology is now completed. We have grown in total numbers and the resident training program continues to expand. We have, indeed, established one of the most outstanding residency training programs throughout the country. Our residents often return to tell us how valuable their training has been.

So we will continue in the next year, to maintain the high standard of resident training, to further our research, and to provide the best in the clinical management of our patients.

Joseph F. Artusio, Jr., M.D.
Anesthesiologist-in-Chief

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